BARRIERS TO RECYCLING

Beyond the Blue Box

It Starts Officially in 1991

Code of Laws for South Carolina

Title 44

CHAPTER 96

SC SOLID WASTE POLICY

AND

MANAGEMENT ACT

Not Quite the Paul Harvey Version…

- Take on responsibility for waste management planning.
- Develop programs targeted at reducing waste disposal.
- Preparation of Solid Waste Management Plans by Counties that were in compliance with state plans.
- Goal was to reduce waste generation to 3.5 pounds per person per day by June 2005.
- Recycling rate of 35% by June 2005.
- Created the Office of Solid Waste Reduction and Recycling.

Solid Waste Management Plans

- Counties required to write a SWMP, and not local governments.
- Identify the waste being generated in the County.
- Identify plans for managing waste within the "planning unit".
- Report amount of recycling generated during the year.
- Used to determine compliance if a facility is proposed.

Where Were We?

79 Sanitary landfills in the state at the time of the act.

Time for a Diet!

Nationally, waste was being generated at a rate of 4.5 pounds per person per day.

Just another reason to dislike Yankees?!

- Increase in population increases consumption of natural resources and waste generation.
- 25% increase in SC population since 1990.
- 250,000 increase since 2007 alone.

Population Increase

(Population and Garbage pg. 85)

Now what…

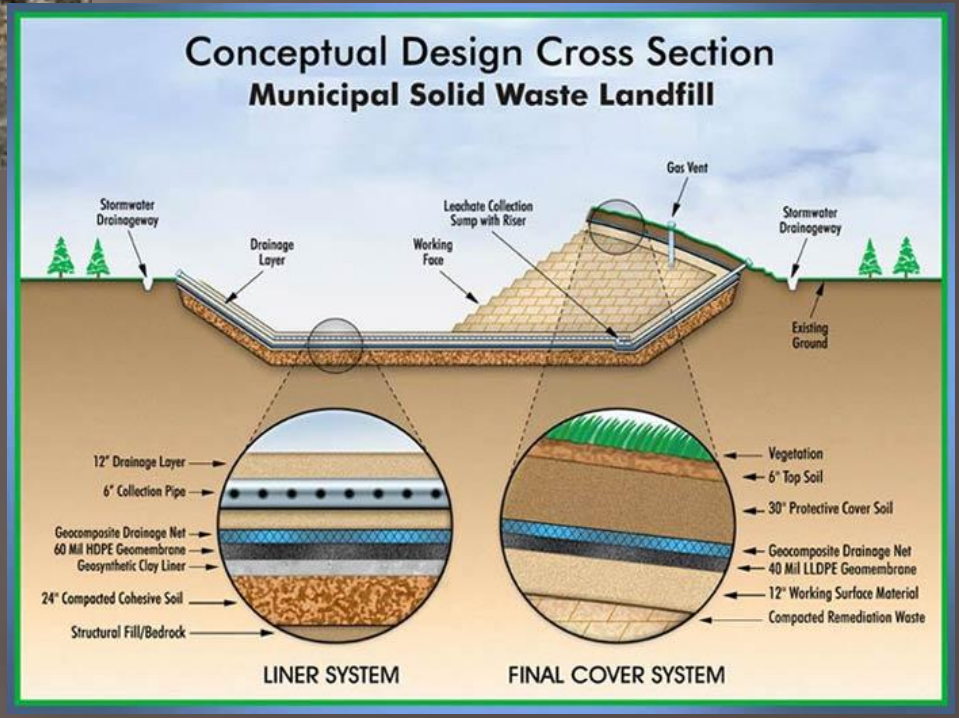
How Have Things Changed?

There are only 19 permitted landfills in the state.

Solid waste generation has decreased from 6.3 pounds per person in 2007 to 5 pounds in 2010.

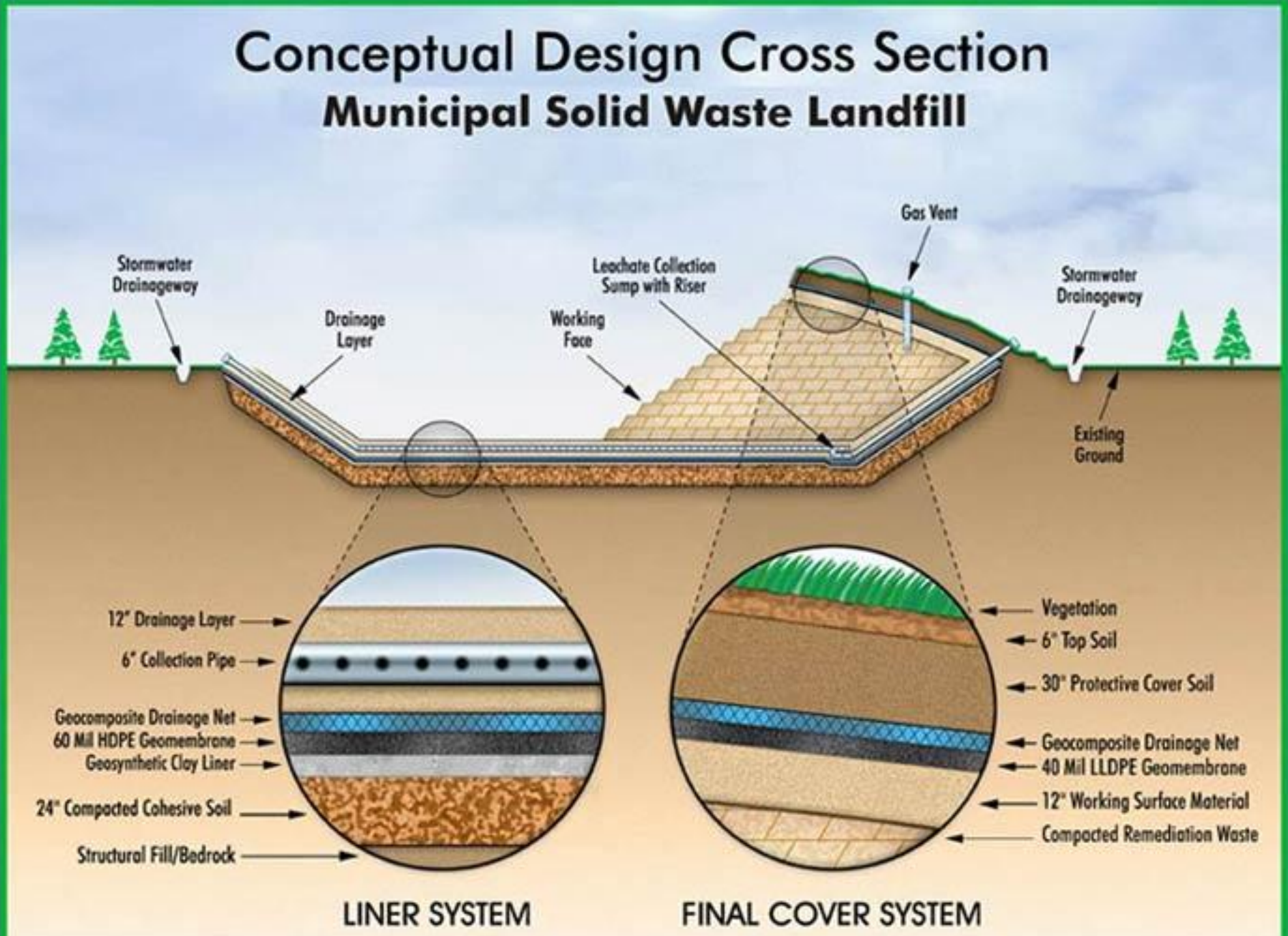
Recycling rate is currently 25.5%.

Change in Technology



Conceptual Design Cross Section

Municipal Solid Waste Landfill



Types of Landfills

Class I Landfill

Land clearing debris

Class II Landfill

C&D

Industrial SW Class 1

CLASS III Landfill

MSW

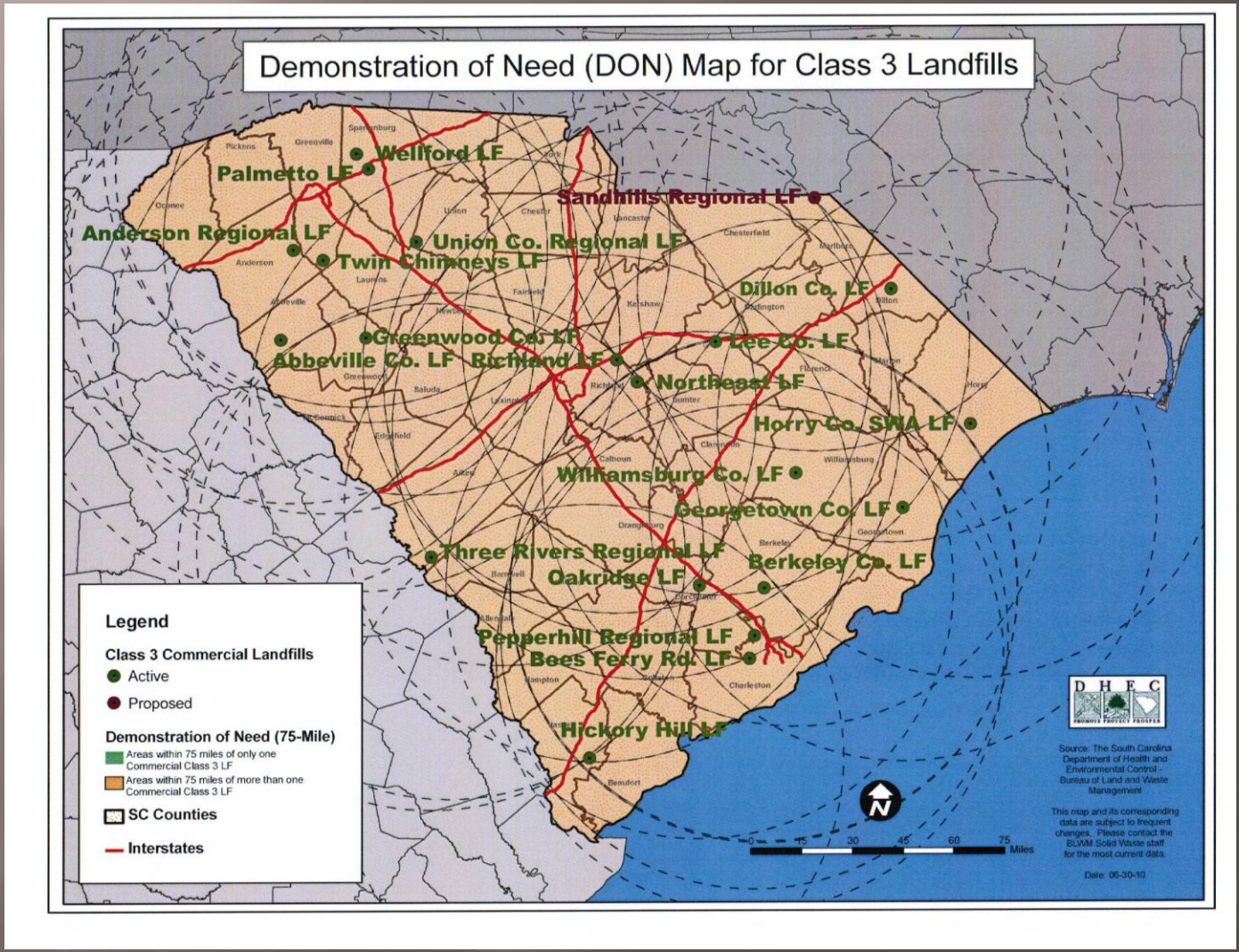
Industrial SW Class 2 & 3

"DON"

DON
Demonstration of Need

- Revised in 2009
- Addresses concerns over permitted capacity in the state and the amount of waste generated within SC.
- 42 million tons of capacity was available, but was reduced to 13 million tons.
- Long term impact will be increased tipping fees.
- Tipping fees in the NE range from the mid $60 - $100 per ton. South Carolina averages in the $35 - $40 range, and can be less.

"DON" DEMONSTRATION OF NEED



How Can We Have An Impact?

Participate in Recycling Programs

Benefits:

- Good for the environment through conservation of natural resources, energy and waste disposal.
- Good for the economy of the state by creating jobs.
- Good for schools by reducing waste disposal costs, and through partnerships created with local programs, can help communities meet state goals.

(Recycling: A Valuable Lesson pg. 101)

Recycling Collection

LOW TECH SOLUTION

PROS VS CONS

- Low purchase price
- Low operating cost
- No CDL required to operate
- Dual stream collection adds value to prices paid for commodities
- Limited capacity
- Difficult to maneuver

Middle of the Road Semi-Automated Tech. Single Stream

Pros vs Cons

- Increased cost for equipment.
- Increased maintenance costs.
- Reduced revenue paid for commodities.
- Increased capacity through compaction.
- No material separation, thus increased route efficiency.

Fully Automated Side Loader

HIGH TECH SOLUTION

PROS VS CONS

- Very high vehicle cost
- Very high maintenance cost
- Only 1 person on a crew
- Very efficient route collection vehicle if set-up correctly.

Another Option to Curbside

Convenience Center
or
Drop Off Center

Pros vs Cons

- Low collection costs
- Customers have to bring materials to the center

Small Scale Processing

Large Scale Processing

Commodities

Newspaper

Mixed Paper

Corrugated Cardboard

Fiber

Commodities

Aluminum Cans

Highest value material

Similar composition in the waste stream as steel cans by weight

Light weighting of these containers over time gives a false indication that recycling participation has decreased

Commodities

Steel Cans

Similar in composition within the waste stream as aluminum when measured by weight.

Stable markets for this material.

Local markets are typically available to accept this commodity.

Commodities

Plastics

"Bottles And Jugs"

Commodities

CLEAR

GREEN

BROWN

How much is out there?

1 TON OF WASTE

- 39% Fiber
- 1% Aluminum Cans
- 1% Steel Cans
- 3% Plastic Containers
- 5% Glass Bottles

COMPOSITION OF RECYCLABLES

- 70% Paper
- 5% Aluminum Cans
- 5% Steel Cans
- 10% Plastic Containers
- 20% Glass Bottles

4.1 million tons generated in the state

Quick Math Lesson

Economic Impact of Recycling

2010 Revenue from Recycling = $200,000

Avoided cost of disposal

SC - $12 per ton x 3,000 tons = $36,000

NE - $75 x 3,000 = $225,000

Collection Cost = $335,000

Politics of Recycling

Current Legislation

Electronics Legislation

As of July 1st, electronics are banned from disposal in MSW landfills.

S461 – Beverage Container and Packaging

Those that have a permit to sell alcohol for consumption on premises will be required to recycle beverage containers and packaging.

Dollar$ and Cent$ of Recycling

Local Questions:

What services are you going to provide?

How will the services be delivered?

Who pays?

Statewide Questions:

What is the impact to our economy as a whole?

Local Questions

Collection – Public vs Private

Vehicles to be used – Low Tech vs High Tech

Staffing – Collection Crews & Administration

Processing – Public vs Private

Statewide Financial Impacts

Industry Size
$6.5 billion (2006) Projected $10 billion in 2010

Tax Revenue
$69 million

Jobs
37,440 direct and indirect jobs $1.5 billion in income

Annual Growth Rate
12%

Capital Investment
$438 million (nearly 30% more than in 2009)

What Can a School Do?

Create a dumpster diving team.

Identify the materials that can be recycled, and how much is being generated.

List the remaining items and their quantity.

Contact the local recycling coordinator for your community to identify resources that are available to you to start a program.

Gain support for the program, implement, record and publish results.

Everything that you wanted to know about solid waste and recycling, but were afraid to ask…

However, if you still have questions, I would be happy to try and answer them.